

"The left buttock is flattened; the trochanter is felt rather below, and to the outer side of the anterior and superior spinous process of the ilium. The neck of the bone lies apparently between the two anterior spinous processes, so that, when the patient is erect, the limb appears slung or suspended from this point. The head of the bone cannot be felt; it is invested by an abundance of bony matter, which extends backwards and inwards over the brim of the pelvis and iliac vessels, occupying in front, nearly the whole space between the inferior spine of the ilium, and that of the pubis, respectively. There is complete eversion; slight mobility; and imperfect progression with the aid of a crutch."

From the space we have already occupied, we regret to find that we shall be unable to conclude our notice of the volume before us, in the present number. We shall, therefore, close here for the present; deferring until our next an account of the remaining papers, many of which are extremely valuable, and claim a somewhat extended analysis.

D. F. C.

ART. XVI.—*Recherches sur l'Emphyseme des Poumons*. Par M. Louis, Médecin de la Pitié, Member de l'Académie Royale de Médecine, &c. &c.

Researches upon Emphysema of the Lungs. By M. Louis, Physician of La Pitié, Member of the Royal Academy of Medicine, &c. &c.

The above essay forms part of the memoirs of the "Medical Society of Observation" of Paris, the first volume of which has just appeared. Previous to the time of Laennec, pulmonary emphysema was almost unknown, and even since that period but little has been done to improve its history as given to us by that author. The work now before us, however, contains much new and valuable matter, and gives to the subject great additional interest and importance. The author's conclusions are based upon an examination of the histories of ninety cases of the disease, the greater part of which were observed by himself in the hospital of La Pitié. For some of them he is indebted to our countryman, Dr. J. Jackson, jun., of Boston, who, when in Paris, devoted much of his time to the investigation of this subject. Dr. Louis has published only a few of these cases in detail, but has given us a strict analysis of the whole. He has advanced but little that was not directly deducible from the facts before him, and based upon numerical data. This method of analysing medical cases may be said to have originated with him, and through its means the general results of clinical observation have assumed a high degree of accuracy to which otherwise they never could have attained. This system, although strongly opposed by many, is gradually gaining ground, as will appear by referring to several recent publications. It has been adopted by Andral in the last edition of his *Clinique*, as well as by Chomel. Even Bouillaud has given in his adhesion, and undertaken its defence in a late work, entitled "An Essay on Medical Philosophy, &c." We only regret that his feelings did not allow him to give to Dr. Louis the credit of being the first to carry out this system in practice, and urge its claims upon the attention of medical men.

Our author first gives a general description of the disease and of the appearances after death. He then proceeds to a separate consideration of each symptom and lesion, establishes the diagnosis, and concludes with some observations upon the causes, the frequency and the treatment of the disease.

We shall first consider his account of its

Anatomical characters. These are derived from the examination of the bodies of forty-two patients who died, more than half of whom were victims of the cholera. That portion of the lungs which was the seat of the disease, i. e. of the dilatation of the vesicles, was found to yield less easily to pressure than in the

natural condition; and its tissue also was thickened. This circumstance had been already noted by Laennec, but it further appears from the observations of our author, that this thickening is owing to a hypertrophy of the walls of the vesicles. That this is the case may be shown by direct experiment. It is also in accordance with a general law of our economy, that all membranous tissues become thicker in proportion as they are dilated from any cause. Dr. L. thinks that the dyspnoea which forms such a prominent symptom in the disease before us, can hardly be accounted for in any other way than by regarding it as the result of the influence which the hypertrophy of the vesicles must necessarily exert upon the reciprocal action between the air and blood in the lungs. It is possible that the dyspnoea may be in part owing to this cause, but it seems to us that it can be accounted for at least equally as well in another way. An emphysematous lung contains more air than a healthy one, and remains permanently distended, so that during each inspiration a less amount of air is taken in than natural. As the quantity of fresh air introduced into the lungs during each inspiration is diminished, it is clear that the conversion of venous into arterial blood, must be retarded; and hence dyspnoea must be the necessary consequence. The extent of the emphysema was very various. Sometimes it affected the whole of both lungs, and at others a part only of one. The extent to which it existed, appeared to be in proportion to the duration of the disease. Both sides of the chest were found to be equally liable to it. The degree of dilatation of the vesicles was always very various in the different parts of the lung. Generally, it was greatest upon the internal surface, or at the base, and especially along their free border. This fact is regarded by M. Louis as particularly worthy of note, because it seems to show that this affection is independent of pulmonary catarrh, or at least that form of it which attacks the smaller ramifications of the bronchial tubes, and gives rise to a subcrepitant râle. Adhesions between the opposing surfaces of the pleura were found in thirty out of thirty-six cases, but they were never universal, and generally occupied either one side only, or a small part of the lungs. This condition of the parts does not differ a great deal from what is usually found in the examination of bodies not tuberculous, and Dr. L. regards it as being in nowise the result of the emphysema, since the individuals in question were generally well advanced in life, and the adhesions were found as usual at the posterior part of the lungs, whilst the anterior portion was most subject to emphysema. Besides, no adhesion whatever existed in two out of the three cases in which the emphysema had arrived at its greatest height. The bronchial tubes were not more frequently dilated in this than in other diseases. From all this, Dr. L. thinks that it is evident that inflammation of the surrounding parts does not operate as a cause of dilatation of the vesicles, and also that the latter has no influence in producing the former. In sixteen out of the forty-two cases, the heart was augmented in volume. This augmentation is considered as a consequence of the emphysema.

Symptoms.—The first in order and the most important is dyspnoea. Of the patients who left the Hospital more or less relieved, forty-four were carefully examined with reference to this symptom, which was absent in only two cases. It was permanent, and never completely disappeared after the period of its first developement, except in a solitary instance. In some it showed itself during childhood, as was evinced by their inability to run as fast as their companions of the same age, without being quickly put out of breath. In the greater part it commenced much later in life, but in three cases only after the age of fifty years. Hence Dr. L. concludes that the liability to the disease is very slight in persons who are over fifty. Whether this be so or not, we cannot undertake to determine; but at the same time are inclined to think that the facts brought forward by our author are insufficient to prove it, because it must be recollected that the number of aged persons admitted into his Hospital are, comparatively speaking, few in number. The oppression, when first observed, was commonly

slight, and remained so for a long time in those cases where it showed itself at an early period; and in few did it become violent till after the lapse of a considerable length of time. In most it was subject to violent exacerbations, which sometimes occurred without any appreciable cause, but were generally the consequence of an attack of acute pulmonary catarrh. The importance attached to this symptom will be best enforced by quoting our author's own words.

"This dyspnœa, so remarkable on account of the period of its commencement, which was frequently during childhood, of its duration, its permanency, its frequent exacerbations, often unaccompanied with any of the other symptoms of disease of the heart; this dyspnœa, I repeat, was of itself characteristic of emphysema. It was impossible, in fact, to refer it to a simple habitual pulmonary catarrh, which was not present in all the cases where the oppression appeared after the age of twenty years or a little before; and which, moreover, with one exception, did not exist in any of those where the commencement of this symptom was referred to very early life. It could not be owing to a general or partial dilatation of the bronchial tubes; because, when the latter is accompanied with dyspnœa, this is mild, and especially not subject to exacerbations. In some cases, which were complicated with disease of the heart, this last was only of a few years duration when the patients came under our observation, and was very far from having originated during childhood. Finally, the absence of hæmoptysis, and of the other symptoms of tuberculous disease, would not allow us to attribute the symptom in question to phthisis; so that the mere existence of dyspnœa, possessing the characters which have been described, might of itself be sufficient to discover, and has in fact often been the means of discovering, emphysema of the lungs."—pp. 185-186.

In those who died, the characters of the dyspnœa were found to be very much the same as in the foregoing series of cases.

Form of the chest.—This was uniformly altered. There was an unnatural prominence, which occupied a surface of limited extent, and was generally confined to one side. In one case only was the chest distended throughout, and here it presented more or less of a globular form. The prominence alluded to usually commenced under one or other clavicle, and extended downwards about as far as the nipple. At the same time the usual hollow above the clavicle was more or less obliterated on the same side, and sometimes even its place was supplied by an absolute prominence.

This double prominence, which is found only in emphysema, has enabled me to recognise this affection in more than one instance, when a further examination has confirmed the diagnosis."—*Memoirs*, p. 198.

The description of the conformation of the chest is much more accurate than that given by any preceding writer. Laennec speaks merely of a general enlargement either of the whole chest or of one side.

The respiratory murmur was found to be more feeble than natural. This feebleness, although not confined to that part of the chest which was prominent, was, however, most marked there. The same was observed of the resonance on percussion, which was greater than natural. Besides the sibilant and sonorous râle, one or other of which existed in every case, there was found in many a subcrepitant râle at the inferior part of the chest behind. This râle was indicative of acute pulmonary catarrh, with which most of the patients were attacked shortly previous to their admission into the wards. The uniform seat of this râle, when existing as a sign of acute catarrh, is, as has been just mentioned, the posterior inferior portion of the chest.

"This law of its development is moreover important, inasmuch as it seems to indicate that emphysema, which is generally found greatest near the free border of the lungs, is independent of pulmonary catarrh, at least in its acute form, and it increases the number, already considerable, of facts which show the wide difference which separates catarrh and tubercles."—p. 218.

That emphysema is not dependent upon the form of acute catarrh above alluded to is very probable, but at the same time we are not aware that any one ever supposed that it was so. On the contrary, it is to dry chronic catarrh that Laennec especially attributes its production.

Pain in the chest occurred in about half of those cases which were carefully examined with reference to this point. Its seat was almost always (13 times out of 15) in that part of the chest which was unnaturally prominent. Laennec does not speak of it.

"These (the pains) were not increased either by inspiration or coughing, and hence cannot be attributed to chronic inflammation of the pleura. Moreover their seat was generally the anterior part of the chest, which corresponds to that portion of the lung which is found most free from adhesions in emphysemas as well as under other circumstances, unless where the adhesions are general. It is equally impossible to refer the pains above spoken of to extension of the thoracic parietes, as this extension, when it is the result of mere effusion not consequent upon inflammation, is not accompanied by pain; and as this symptom existed thirteen times out of fifteen, not only on the same side with the prominence, but in the precise spot which it occupied, we are absolutely obliged by the process of exclusion to refer it to the dilatation of the vesicles themselves."—p. 225.

Nevertheless our author does not regard the conclusion as established, because he thinks that it requires a greater number of facts to determine the question positively.

Palpitation of the heart and œdema of the lower extremities were found in a considerable proportion of cases; but these symptoms did not commonly appear until after the disease had been long established. In most of those who died after having experienced permanent palpitation, the heart was found enlarged. Where œdema of the lower extremities had existed, the same condition of it was uniformly observed; and, on the contrary, where œdema did not exist, hypertrophy was never found. "Hence it necessarily follows, that œdema developing itself during the progress of emphysema of the lungs, should not be referred to this latter disease, but rather to an organic affection of the heart." It is evident, from what has been stated above, that permanent palpitation and œdema must not be regarded, strictly speaking, as symptoms of emphysema, but rather as indicative of that condition of the heart which so frequently complicates it. Moreover it is plain, that the hypertrophy was a consequence, and not a cause of the disorder of the respiratory function, because the dyspœa existed long before the symptoms of cardiac disease made their appearance.

With one exception the patients lost neither flesh nor appetite, except for a short period during the existence of an attack of acute catarrh accompanied with a paroxysm of dyspœa.

Having investigated each symptom separately, our author proceeds to consider the diagnosis which he establishes with that rigorous exactness which characterizes most of his observations, and especially those which refer to the distinguishing character of disease. He institutes a comparison between the symptoms of emphysema and those of other diseases with which it might be confounded, such as catarrh, dilatation of the bronchi, aneurism of the aorta, organic affections of the heart, &c.; and shows most clearly wherein it differs from each of them. We could not do justice to this portion of the paper unless we gave it entire, which would take up too much space. From what has been given above, however, the reader will readily discern the most prominent points of difference. The course of emphysema is essentially chronic, remaining stationary in many cases for a number of years, without giving rise to any very violent symptoms. In other cases, however, the disease was marked with considerable severity at its outset, but still its course was very protracted. In a few exceptional cases only, its progress would seem to have been very rapid. A remarkable instance of this kind is selected by our author, in which the dis-

ease arrived at a fatal termination one month after the date of the attack. Here, however, death was not caused by the emphysema alone, for at the same time there existed dilatation of the bronchial tubes and tuberculous depositions, the origin of both of which, however, appeared to be coeval with the dilatation of the vesicles.

Upon the causes of the affection but little additional light has been thrown. Laennec supposed, that in a great majority of cases, it was a consequence of chronic catarrh. This, however, Dr. L. does not admit. He says that,

"Setting aside those cases where the dyspnœa commenced in very early life, and in which cough did not generally supervene till a much later period, the oppression was far from being always preceded by pulmonary catarrh, as has been previously stated; and in several cases this latter did not show itself until one or more years after the occurrence of oppression. Hence we must admit the following conclusion, viz: that emphysema may and in fact does not unfrequently arise independent of pulmonary catarrh."—p. 253.

Laennec himself states, that in some cases the dilatation of the cells appeared to be primitive, and the catarrh consecutive. But certainly it does not hence follow that emphysema may not owe its origin to chronic catarrh in a number of instances. Indeed some of the facts recorded by Dr. Louis seem to us to be in favour of this conclusion. Setting aside those cases in which the difficulty of breathing existed during childhood, this symptom was either preceded or accompanied at its commencement with cough in every case, except two. As regards those cases in which the dyspnœa is said to have occurred during childhood, it must be recollected that it was then exceedingly slight, being indicated merely by an inability on the part of the subjects of it to run as fast as their companions of the same age, at least, without being quickly put out of breath. Granting that slight dilatation of the pulmonary vesicles was then present, it seems to us that this could hardly be regarded as strictly anomalous, and was, perhaps, in some cases only the result of their original conformation; for it was unaccompanied by any other symptom attendant upon emphysema in after life. But without insisting upon this, it is clear that pulmonary catarrh either preceded or accompanied the first signs of emphysema in the great majority of instances. It is worthy of note too that the only cases, (two in number,) in which dyspnœa was absent, were also free from habitual catarrh. Most commonly also the violent exacerbation of oppression which forms such a prominent feature of the complaint, coincided with an attack of acute pulmonary catarrh. That the symptoms of catarrh were not always permanent, or were not at all times present throughout the whole course of the disease, is no argument against the views we are supporting, for the cells being once dilated, difficulty of breathing, to a certain extent, would necessarily remain, although every sign of catarrh had entirely disappeared for the time. Indeed the circumstance above mentioned is in our favour, for it shows among other circumstances, as our author himself affirms, that cough is not a necessary symptom of emphysema, and hence it is the more astonishing that it should so very frequently accompany the commencement of the disease, unless we regard it as a cause and not a consequence. It is stated by Laennec that, in dry catarrh, the small bronchial tubes are often completely obstructed either by a pearly expectoration, or by swelling of their mucous membrane. He thinks that this state of parts gives rise to dilatation, by causing, during expiration, the retention of the air which had overcome the obstacles opposed to it during inspiration. Our author is of opinion that this explanation is not in accordance with the facts which he has observed, and that it is at variance with the following observation which he has made, viz: that the pulmonary vesicles were always found empty. This, however, does not in the least affect the question, for it is not the vesicles but the small bronchial tubes which are obstructed, according to the statement of Laennec. Of the condition of the latter, Dr. Louis, by a singular oversight,

has said nothing. We are far from regarding the views of Laennec upon this subject as clearly established; for, until the question shall have been farther investigated, it would be difficult, perhaps, to come to a positive conclusion. With all due deference to the authority of Louis, we must, however, observe that we do not think that the facts which he has adduced, establish the views which he has taken of this question.

The hereditary nature of emphysema seems to be clearly made out. Of twenty-eight patients affected with it, and from whom accurate information could be obtained in relation to the point in question, eighteen were born of parents one or other of whom had been subject to the disease. For the facts tending to establish this point, Dr. Louis is chiefly indebted to his late pupil J. Jackson, jr. There is only one source of doubt attaches to them, which is the difficulty of being perfectly sure that the parents of the patients referred to were really affected with emphysema. For they were regarded to have been so whenever it was found that they had been subject to great difficulty of breathing coming on by paroxysms, and accompanied by emaciation, &c. Now, although it is probable that the larger part of them were really affected with emphysema, we cannot, with the knowledge which we at present possess, admit that they all were so.

The disease, according to our author, is a very frequent one, and in proof of it he mentions, among other circumstances, that the cases which he has analyzed, in the memoir before us, were collected for the most part in the short space of twenty months.

Regarding the causes of the disease to be unknown, he says but little in relation to the prophylactic treatment, recommending merely the avoidance of the common causes of disease in general, and of that of the lungs in particular, and especially of those circumstances which are calculated to bring on paroxysms of oppression, and augment the symptoms of the disease when established. He alludes particularly to the inhalation of an atmosphere charged with dust, deleterious substances, moisture, &c. As regards the curative treatment, he has but little confidence in the efficacy of polygala, squills, &c. which were so much recommended by Laennec in relieving the pulmonary catarrh which accompanied the disease. He thinks that they do not diminish dyspnoea and favour expectoration, as has been said. Loss of blood he looks upon as equally inefficacious under the same circumstances. He has found but one substance which exerted a decided influence upon the dyspnoea, and that was opium.

"One medicine only, and that has been mentioned by Laennec, had a happy influence upon the dyspnoea of a large part of those patients affected with emphysema, whose histories I have collected; I mean opium in every form. Almost all those to whom I gave it experienced decided relief, (twenty-six out of thirty of those in whose history I had carefully noted down the phenomena which followed the administration of the medicine) and the violence of the symptoms returned as soon as the use of it was suspended, unless in cases where they had been reduced for a considerable length of time."—p. 259.

When the disease is complicated with hypertrophy and dilatation of the heart, the treatment requires some modification, but even here Dr. L. says that v. s. should be cautiously employed, as the dyspnoea is owing, in great measure, to the emphysema, which is not relieved by sanguine emissions.

From the sketch which we have given of the most prominent features of the memoir before us, it is evident that the profession is indebted to its author for very material additions to their previous knowledge of the affection of which it treats. His conclusions are, generally speaking, so clearly established, that we are obliged to admit their correctness. In examining the evidence upon which they rest, the reader feels assured that he has arrived at something real and tangible—that he has been made acquainted with positive scientific truth, and not with mere conjecture and supposition. This character of, I had almost said, mathematical accuracy, is peculiarly characteristic of the writings of Dr.

Louis. This is one of the beautiful results of the system which he has adopted, and we cannot conclude without repeating that to him most undoubtedly belongs the credit of having applied it to the investigation of morbid phenomena.
T. S.

ART. XVII. *Du traitement curatif des varices par l'obliteration des veines, à l'aide d'un point de suture temporaire.* Par M. DAVAT. Paris: 1836. 8vo.
On the treatment of Varices by obliteration of the vein, by means of a temporary ligature. By Mr. DAVAT.

Varicose veins are looked upon by many as a complaint of little interest, but the frequency of their occurrence, and the constant solicitations made by those labouring under them for a radical cure, should alone be sufficient to induce the practical surgeon to devote his serious attention to the subject.

To procure the obliteration of the cavity of the vein, is the end proposed in all operations for the cure of the disease, and hitherto has been arrived at in one of three ways, viz: by the ligature, by simple division of the vessel, or by the removal of a portion of it. Each of these methods has had its advocates and decriers, and each in turn has been the favourite one for a time; but experience has shown them all to be so dangerous, that surgeons look upon the performance of either of them as an operation of a most serious nature. Under such circumstances we hail with much pleasure the memoir of M. Davat, bringing forward a new operation for their cure, equally, if not more certain in its results, at the same time that it exposes the patient to infinitely less danger.

The little work before us is divided into three parts. In the first, the anatomy of the superficial venous system of the limbs is treated of. In the second, the different modes in which obliteration of veins may take place is described, as well as the various operations practised for the cure of varices; and in the last is an exposition of the new method of operating, and reports of a number of cases in which it has proved successful. Our notice will be confined to the two last parts only, the first containing nothing that is not already well known to the profession.

By the obliteration of a vein, M. Davat understands its conversion into a white, solid, ligamentous cord; he does not look upon it as *obliterated* when its cavity is obstructed by a fibrinous mass only, as this latter is always temporary, and is invariably removed after a time by absorption.

From experiments performed by himself, he is led to conclude that the obliteration (as he understands the term) of a vein after operations, takes place either from thickening of its coats or from union by the first intention of its internal membrane. The application of a ligature to a vein, does not cause a division of the internal membrane, as in the arteries, but merely excites effusion into the cellular coats of the vessel, and in this way produces thickening of its parietes, and consequent obliteration of its cavity.

The following he states to be the phenomena which occur after a ligature is put upon a vein. 1st. There is an increased quantity of blood carried to the surrounding parts, 2nd. There is an effusion of coagulable lymph in the cellular tissue around the vessel. 3d. The internal membrane contracts, and is thrown into folds by reason of the pressure upon it, but retains its natural colour and thickness, and presents no exhalation of lymph upon its surface. 4th. If the ligature remains until sufficient lymph is effused in the cellular sheath of the vessel to obstruct the circulation, the clot which is shut up is absorbed, and the vein diminishes in size and is entirely obliterated somewhere between the fourteenth and seventeenth days. But if the ligature is thrown off before a sufficiency of lymph is deposited, the folds of the internal membrane become ef-